

ACCESSION NR: AT4042722

S/0000/63/000/000/0510/0514

AUTHOR: Yarmonenko, S. P.; Kuriyandskaya, E. B.; Avrunina, G. A.; Gaydova, Ye.S.; Govorun, R. D.; Oriyanskaya, R. L.; Palyuga, G. F.; Ponomareva, V. L.; Fedorova, V. I.; Shmakova, N. L.

TITLE: Reactions to radiation and chemical protection of animals subjected to the effects of high-energy protons.

SOURCE: Konferentsiya po aviatsionnoy i kosmicheskoy meditsine, 1963. Aviatsionnaya i kosmicheskaya meditsina (Aviation and space medicine); materialy konferentsii. Moscow, 1963, 510-514

TOPIC TAGS: corpuscular radiation, high energy proton, synchrocyclotron, gamma ray, radiation effect, radioprotective agent, RBE

ABSTRACT: Experiments were performed to determine the immediate and the delayed effects of high-energy protons and their RBE on animal organisms. High-energy protons of 660 Mev were generated on a synchrocyclotron. Comparative tests using gamma rays from a Co⁶⁰ source were used in establishing the RBE. Nonpure strain mice and rats were used, in addition to mice of the BALB and C-57Bl strains.

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All materials were subjected to statistical analysis. In comparative experiments performed on rats subjected to a dose of 500 rad, the degree of injury to hemopoietic organs by protons was considerably less than injury caused by gamma radiation. The depression of hemopoiesis in the bone marrow and the spleen of animals irradiated by protons was less profound and less prolonged, and regenerative processes began earlier than in injuries produced by gamma rays. This difference of effect was particularly clear in the dynamics of the peripheral blood. After exposure to gamma irradiation, a profound and prolonged anemia developed, accompanied by a loss of 40% of the erythrocytes and 51% of the hemoglobin. An equivalent dose of protons caused only insignificant lowering of these indices. Similar effects were observed in the white blood corpuscles, particularly in respect to neutrophils. The results obtained confirm that the condition of peripheral blood does not reflect the true depth of radiation damage to hemopoiesis. In experiments with white mice, a study was made of early destructive changes in the brain marrow, the dynamics of mitotic activity, and the kinetics of cells with chromosomal injuries. Exposure to protons induced typical radiation degeneration of cells of the bone marrow, a slowing down of mitotic activity, and injuries to the chromosomes. A strong linear relationship of injury-to-dose was

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observed in all three indices within the 250--1000 rad range. Exposure to equivalent doses of gamma rays produced more pronounced changes, indicating that the RBE of protons is equivalent to 0.5--0.7. Preliminary administration of radio-protective agents -- AET (S, 2'-aminoethylisothioronium), MEA (mercaptoethylamine), and 5-MOT (5-methoxytryptamine) -- diminished the number of degenerating and aberrant cells in the bone marrow in proportion to the effect of the indicated drugs on survival. The most effective appeared to be a combination of MEA and 5-MOT, whose use assured the survival of 50% of the mice when irradiated by doses of 1900 rad. If irradiation is fractionated, the protective effect of the drugs is reduced sharply, or it disappears altogether. In experiments on male mice of the BALB strain subjected to doses of 500 and 700 rad, reversible changes were observed in the weight of testicles. The change of weight and its subsequent recovery was due to the death and the subsequent regeneration of germ cells. Protons have a typical sterilizing effect on the genitalia, but their RBE, in comparison with gamma rays, lies between 0.6 and 0.7. The use of antiradiation drugs did not prevent the sterilizing action of protons, but it caused a somewhat smaller loss of weight of the testicles and produced a shorter period of sterility. White male mice which had been protected by AET, MEA, 5-MOT, and cystamine from the effects of proton doses of 1300--1600 rad recovered their generative functions

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almost completely four to seven months after irradiation. The development of the first generation of 290 mice obtained by crossing the protected and irradiated males with intact females took place without visible somatic injuries. The relative effectiveness of protons and gamma rays in causing somatic mutations was studied on livers of white rats who were subjected to doses of 150 rad. Regeneration of the liver was induced by removing the large left and the front right lobes of the liver. The operation was performed 24 hours after irradiation. The animals were killed 30 hours after the operation, i. e., during the first wave of the increase of mitotic activity. Control animals had 6.9% of aberrant cells, while after irradiation by protons and gamma rays, the number of aberrant cells was 20% and 24%, respectively. This indicates that the RBE of protons in respect to somatic mutations is around 0.7. New data were obtained on the blastomogenic effect of protons. Out of 85 irradiated rats, tumors were found in 39. Twenty-five of them had multiple tumors in various locations. In experiments on non-pure strain white mice, it was possible to show that antiradiation drugs, while increasing the radio resistance of the animals, do not prevent subsequent development of new growth. Out of 65 irradiated mice who died at various periods after exposure to protons in doses from 1300 to 1500 rad (after having previously received antiradiation protection), fourteen had leucosis and four had sarcoma.

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SUMMIT: 27 SEPT 63

ACCESSION NR: AP4025123

S/0241/64/009/003/0066/0070

AUTHOR: Yarmonenko, S. P.; Palyuga, G. F.

TITLE: Analysis of the action mechanism of antiradiation agents during their application (Protective action of rectally administered preparations)

SOURCE: Meditsinskaya radiologiya, v. 9, no. 3, 1964, 66-70

TOPIC TAGS: antiradiation agent, mercamine, 5-methoxytryptamine, AET

ABSTRACT: The toxicity and protective effect of mercamine, 5-methoxytryptamine, and AET were studied in experiments with white male mice exposed to total-body γ -irradiation from a GUSE-800 apparatus with 900 rad at 241 rad/min. The antiradiation agents were introduced intraperitoneally, orally, or rectally 30 min before irradiation. The toxic effect produced by rectal administration of all three preparations was lower than that of the control.

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the intraperitoneal administration. Mercamine (150 mg/kg) produced no radioprotective effect when introduced orally, intraperitoneal administration produced a marked protective effect, rectal administration produced a similar effect only when larger doses (450—600 mg/kg) were used. Rectal administration of 5-methoxytryptamine exerted a marked radioprotective effect on the test animals. A dose of 150 mg/kg resulted in 66.7% survival, a dose of 300 mg/kg, in 83.3%. Rectal administration of mercamine (150 mg/kg) produced 10% survival; with 300 mg/kg mercamine, all test mice died. AET had hardly any radioprotective effect when introduced rectally. The protective effect of combined intraperitoneal administration of mercamine and 5-methoxytryptamine (150 + 75 mg/kg) resulted in 95% survival. The same dose introduced rectally resulted in 50% survival. Orig. art. has: 3 tables.

ASSOCIATION: none

SUBMITTED: 18Mar63

DATE ACQ: 17Apr64

ENCL: 00

SUB CODE: LS

NO REF SOV: 000

OTHER: 000

Cara 2/2

ACCESSION NR: AP4042216

S/0020/64/157/002/0460/0463

AUTHOR: Palyuga, G. P., Yarmonenko, S. P., Shapiro, I. M.

TITLE: The repair of chromosome injury in resting liver cells of rats upon chronic gamma irradiation

SOURCE: AN SSSR. Doklady*, v. 157, no. 2, 1964, 460-463

TOPIC TAGS: chromosome, chromosome injury, radiation injury, resting liver cell, chromosome injury repair, rat liver, single radiation exposure, prolonged radiation exposure, low dose radiation exposure, high dose radiation exposure, cumulative radiation effect, mitotic index

ABSTRACT: Earlier studies have shown that radiation injuries of chromosomes caused by a single exposure are retained in resting liver cells of adult rats and mice for many months. The present study attempted to determine the possible relation between the time during which a certain radiation dose is absorbed and the repair process of injured chromosomes. Tests were conducted in 2 lots of white rats; one group received a single 150 rad dose at 26 rad/min., the other the same dose at 7.10^{-3} to $5.8.10^{-4}$ rad/min. The latter were irradiated around the clock except

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when cells were removed for examination. The mitotic index was determined in controls and the animals of the first lot. Following stimulation of liver cell division by removing part of the liver the animals were sacrificed. The mitotic index, number of damaged chromosomes and extent of damage were determined. Results are figured. The mitotic index of the second lot did not differ much from controls. The lower the dose, the lower was the percentage of cells with chromosome aberrations. This effect increased with time; after 6 months hardly any difference from controls was observed. This was apparently due to repair of chromosome injuries in the resting cells (60% with one injured chromosome, 40% with 2 or more). On the basis of observations it was calculated that with time the number of repaired cells tends to reach 100%. This finding is supported by the absence of cells with 2 or more acentric fragments and bridges upon longer exposure. The concepts on the cumulative effects of exposure may thus have to be re-examined. Such summary effects may weaken or fail to appear with very low doses. It appears that the determinant factor in these tests was the low dose rather than prolonged exposure. It may thus be possible to regulate chromoc irradiation without recourse to observations from a single irradiation. Orig. art. has: 2 tables and 2 figures.

ASSOCIATION: Institut gigeny* truda i profzabolevanii Akademii meditsinskikh

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nauk SSSR (Institute of Work and Professional Hygiene, Acad. of Medical Sciences
SSSR); Institut morfologii zhivotnykh im. A. N. Severtsova Akademii nauk SSSR
(Institute of Animal Morphology, Acad. Sciences SSSR)

SUBMITTED: 28Dec63

ENCL: 00

SUB CODE: LS

NO REF SOV: 006

OTHER: 007

Cord 3/3

ACCESSION NR: AP4042216

nauk SSSR (Institute of Work and Professional Hygiene, Acad. of Medical Sciences
SSSR); Institut morfologii zhivotnykh im. A. N. Severtseva Akademii nauk SSSR
(Institute of Animal Morphology, Acad. Sciences SSSR)

SUBMITTED: 28Dec63

ENCL: 00

SUB CODE: LS

NO REF SOV: 006

OTHER: 007

Card 3/3

L 14152-66 EWT(m)
ACC NR: AP6001317

SOURCE CODE: UR/0248/65/000/009/0044/0052

AUTHOR: Voytkovich, A. A.; Tkachev, A. V.; Chekunov, A. S.; Obchinnikova, G. A.;
Palyga, G. F. 53 B

ORG: Institute of Medical Radiology, AMN SSSR, Obninsk (Institut meditsinskoy
radiologii AMN SSSR)

TITLE: Reaction of the neurosecretory nuclei of the hypothalamus, thyroid, and
adrenal glands to radiation injury of the organism

SOURCE: AMN SSSR. Vestnik, no. 9, 1965, 44-52

TOPIC TAGS: ionizing radiation, pathogenesis, endocrinology, polonium, radiation
sickness, radioisotope

ABSTRACT: Study of the neurosecretory nuclei in rats exposed to polonium 210 reveal-
ed a three-stage development of changes in the neurons of the paraventricular and
supraoptic nuclei. Immediately after exposure the neurosecretion flowed rapidly
along the axons, after which elimination and synthesis were in a state of relative
balance. Finally, inhibition of neurosecretion set in, ending in partial destruc-

UDC: 617-001.28-07 : [616.831.4+616.441+616.45]-008.6-076.916

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L 14152-66

ACC NR: AP6001317

tion of the neurons. The adrenals were studied on the same material at different periods of acute radiation sickness. Within 24 hours of exposure the glands increased in weight almost $1\frac{1}{2}$ times. This increase as well as the histological changes were indicative of marked hypertrophy of the glands due to intensified production of hormones. The structural and functional changes observed in the thyroid were more or less similar to those in the adrenals. Under normal conditions the peripheral endocrine glands are elements in a "closed" system--hypothalamus-hypophysis-thyroid--adrenal-hormone--metabolism in peripheral tissue. Introduction of Po^{210} disrupts hormone metabolism, which gives rise to compensatory intensification of the thyrotropic and adrenocorticotrophic functions of the hypophysis, resulting in hyperstimulation of the thyroid and adrenals. The isotope accumulates selectively in the neurosecretory nuclei of the hypothalamus and ultimately destroys them. Orig. art. has: 2 figures, 1 table.

SUB CODE: 06/ SUBM DATE: 05Jun65/ ORIG REF: 012/ OTH REF: 000

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L 39290-65 EWG(j)/EWG(r)/EWT(l)/EWT(m)/FS(1)-3/EWG(v)/EWG(a)-2/EWG(c)
 ACCESSION NR: AP5010352 Pe-5 DD UR/0205/65/005/002/0279/0281

32
31
B

AUTHOR: Palyga, G. F.

TITLE: Cytological analysis of the effect of high-energy protons. IV. Formation of latent chromosome defects in somatic cells under the influence of 660-Mev protons and Co⁶⁰ γ-rays

SOURCE: Radiobiologiya, v. 5, no. 2, 1965, 279-281

TOPIC TAGS: 660 Mev proton, gamma ray, latent effect, rat, liver cell, cytological analysis, chromosome aberration

ABSTRACT: The RBE of 660-Mev protons is determined in this experiment by the number of chromosome aberrations. Ionizing radiation causes latent chromosome defects in undivided liver cells, which can be observed as atypical forms of mitosis after regeneration of the liver. Male white rats were irradiated by 660-Mev protons and Co⁶⁰ γ-rays (150 rad). Twenty-four hours later, cell division was artificially stimulated by hepatectomy. After 30 more hours, sections were made from the remaining liver, and 100 cells in late anaphase or early telophase examined. The number of cells with acentric fragments and crossovers was counted to determine the number of damaged chromosomes (a 1:1 correspondence of chromosome defect to

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ACCESSION NR: AP5010352

damaged cell was established during x-ray irradiation). Fewer aberrant cells were found in rats irradiated by protons than in rats irradiated by gamma rays. A relatively large number of crossovers occurred in the proton-irradiated cells. More crossovers were observed in cells irradiated by protons than in cells irradiated by gamma rays. The RBE of protons according to this index is 0.7. Because chromosome defects are retained in quiescent cells 2-4 months after irradiation, regenerated mammal liver can be used for biological dosimetry a considerable time after irradiation. Orig. art. has: 2 tables. [JS]

ASSOCIATION: Institut gigiyeny truda i profzabolevaniy AMN SSSR, Moscow (Institute of Industrial Hygiene and Occupational Diseases, AMN SSSR)

SUBMITTED: 03Jun63

ENCL: 00

SUB CODE: LS

NO REF SOV: 010

OTHER: 005

ATD PRESS: 3226

Card 2/2

L 59546-65 EWG(j)/EWT(m)

ACCESSION NR: AP5015733

UR/0205/65/005/003/0423/0427 17
628.58 : 577.391 15

AUTHOR: Yarmonenko, S. P.; Ovakimov, V. G.; Palyga, G. F.; Fedoseyev, V. M.; Tarassenko, A. G. B

TITLE: Fractional irradiation and the effect of chemical radioprotective agents.
1. Distribution of AET in animals associated with the quantity of agent administered, the route of administration, and irradiation conditions 19

SOURCE: Radiobiologiya, v. 5, no. 3, 1965, 423-427

TOPIC TAGS: radioprotective agent, AET, blood, liver, X irradiation, radiology

ABSTRACT: The relative distribution of AET-S³⁵ in irradiated mice does not depend on the dose of the preparation used. Judging by the reduced effect observed after simultaneous decrease in the amount of the protective agent and the radiation dose applied fractionally, this finding tends to contradict the view that the mercaptamines have an antiradical or disulfide mechanism of action. The AET content of mouse blood and liver reaches a maximum 2½ minutes after intraperitoneal injection, and begins to decrease about 28 minutes later. S³⁵ gradually concentrates in the

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ACCESSION NR: AP5015733

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brain, reaching a maximum 30 minutes after injection. When doses of AET known to be fatal are injected, the absolute amount of the compound in the brain when the animal died is one-half to one-fourth that when tolerable doses are used. Consequently, central action plays a secondary role in the mechanism of acute toxicity of AET. The authors conclude that the weakened protective effect of AET with fractional irradiation or with simultaneous decrease in amount of the protective agent or radiation dose is unrelated to any change in the distribution of AET in the organism. They conjecture that by retarding the compound, irradiation helps to intensify its toxicity. Orig. art. has: 7 tables.

ASSOCIATION: Institut gigiyeny truda i profzabolevaniy AMN SSSR, Moscow (Institute of Industrial Hygiene and Occupational Diseases, AMN SSSR); Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 30Jun64

ENCL: 00

SUB CODE: LS

NO REF SOV: 009

OTHER: 001

llc
Card 2/2

BOROS, E.; PALYI, A.; KOS, T.; PAJZS, Zs.

Selection of food by rats and its relation to production of conditioned reflexes. Acta physiol. hung. 7 no.3:251-265 1955.

1. II. Klinik fur innere Medizin der Medizinischen Universitat, Budapest.

(FOOD,

selection, conditioned reflex in rats)

(REFLEX, CONDITIONED,

food selection in rats)

BOROS, Eva.; PALYI, Anna.; KOS, Tibor.; PAJZS, Zsuzsa.

Selection of diets in rats during production of conditioned reflexes. Kiserletes orvostud. 7 no.2:176-185 Mar 55.

1. Budapesti Orvostudományi Egyetem II. sz. Belklinika.

(REFLEX, CONDITIONED,

prod., selection of diets in rats)

(DIETS,

selection in prod. of conditioned reflexes in rats)

MAGYAR, Imre, Dr.; MEGYESI, Klara, Dr.; PALLYI, Anna, Dr.

Administration of oral antidiabetics in liver diseases. Orv. hetil.
98 no.35:958-960 1 Sept 57.

1. A Budapesti Orvostudományi Egyetem I. sz. Belklinikájának (igazgató:
Rusznayk István dr. egyet. tanár) közleménye.

(DIABETES MELLITUS, compl.

liver dis., indic. & contraindic. of carbutamide ther. (Hun))

(LIVER DISEASES, compl.

diabetes mellitus. indic. & contraindic. of carbutamide
ther. (Hun))

(ANTIDIABETICS, ther. use

carbutamide in diabetes mellitus with liver dis., indic.
& contraindic. (Hun))

1 ALB, INC. FBFT,
LASZLO SZERENAI, Magyar Kem. Folyoirat 56, 377-4
(1950)

PALYI, F. - Vol. 1, no. 6, June 1954. (Jarmuvek es Gepok)

Data on the designing of silage cutters which fill silos. p. 190.

SO: Monthly list of East European Accessions. (EEAL), LC, Vol. 4, No. 9, Sept. 1955
Uncl.

PETER, Ferenc, dr. (Budapest VIII., Rakoczi ut 27/b); RUSZNAK, Istvan, dr. (Budapest III. Korvin O.u.44); PALYI, Gyula (Budapest XII, Mérédek u.43); SZABADOS, Ida (Budapest XI., Moricz Zsigmond korter 14)

Investigation of adsorption waves. I. Investigation of the reduction of anthraquinone-1-sulphonic acid at the dropping mercury electrode. (EEAI 10:4)
Acta chimica Hung 24 no.4:363-370 '60.

1. Department for Applied Chemistry, Technical University, Budapest.
 - (Adsorption) (Anthraquinonesulfonic acid)
 - (Electrodes, Dropping mercury) (Riboflavine)
 - (Methylene blue) (Polarograph and polarography)
 - (Diffusion) (Phenazinol)

PETER, Ferenc. RUSZNAK, Istvan; FALYI, Gyula; SZABADOS, Ida

Investigation of adsorption waves. I. Examination of aniline-4-sulfonic-acid reduction on mercury-dropping electrode. Magyar kem folyoir 66 no.5:178-181 Mj '60.

1. Budapesti Muszaki Egyetem Gyakorlati Kemiai Tanszeke.

RUSZNAK, Istvan; PETER, Ferenc; FALYI, Gyula

Polarographic investigation of para aminoazobenzene derivatives.
Magy kem folyoir 66 no. 3:81-84, Mr '60.

1. Budapesti Műszaki Egyetem Gyakorlati Kémiai Tanszéke.

PALYI, Gyula; PETER, Ferenc; SZEBERENYI, Istvan

Polarographic investigation of xanthene-type phthalein derivatives. II. Reduction of quinoid and lacto form of 3,6-Di (diethylamino)-9-(2'-carboxyphenyl)-xanthidrol (rhodamine B).
Magy kem folyoir 67 no.10:424-427 0 '61.

1. Egyesult Vegyimuvek (for Palyi). 2. Textilipari Kutato Intezet (for Peter). 3. Petrik Lajos Vegyipari Technikum (for Szeberenyi).

PETER, Ferenc; PALYI, Gyula

Polarographic investigation of xanthene-type phthalein derivatives. I. Effect of substituents on the reduction occurring on dropping mercury electrodes of phthaleins. (To be contd.) Magy kem folyoir 67 no.10:420-423 0 '61.

1. Textilipari Kutato Intezet (for Feter) 2. Egyesult Vegyimuvek (for Palvi).

PETER, Ferenc; PALYI, Gyula; SZABADOS, Ida

Investigation of adsorption waves. II. Investigation of anthraquinone-1-5-disulphonic acid reduction on dropping mercury electrodes. Magyar Folyoir 67 no.10:428-431 0 '61.

1. Textilipari Kutató Intézet (for Pater) 2. Egyesült Vegyiművek (for Palyi) 3. Országos Kereskedelmi Intézet (for Szabados).

RUSZNAK, Istvan; PETER, Ferenc; PALLYI, Gyula

Polarographic investigation of some triphenylmethane derivatives.
Magy kem lap 16 no.6:287-289 Je '61.

1. Budapesti Muszaki Egyetem Gyakorlati Kemia Tanszek.

PETER, Ferenc; PALYI, Gyula; SZABADOS, Ida

Investigation of adsorption waves. III. Reduction of anthraquinone-1,8-disulfonic acid on dropping mercury electrodes. Magyar kémiai folyoir 68 no.6:234-236 Je '62.

1. Textilipari Kutató Intézet, Budapest (for Peter).
2. Egyesült Vegyiművek, Budapest (for Palyi).
3. Országos Kémiai Intézet, Budapest (for Szabados).

PETER, Ferenc; SZABADOS, Ida; PALYI, Gyula

Investigation of adsorption phenomena occurring on dropping mercury electrode. 1. Effect of leuco-anthraquinone sulfuric acid-ester derivatives on their reduction occurring in the nitro-benzol-3-sulfonic acid agent. Magy kem folyoir 68 no.3: 101-105 Mr '62.

1. Textilipari Kutato Intezet, Budapest (for Peter) 2. Orszagos Kozegeszsegugyi Intezet, Budapest (for Szabados) 3. Egyesult Vegyimuvek, Budapest (for Palyi)

PALYI, Gyula; PETER, Ferenc

Synthesis of polarographically pure dioxane. Magyar kem lap
17 no.8:354-356 Ag '62.

1. Egyesult Vegyimuvek (for Palyi). 2. Textilipari Kutato
Intezet (for Peter).

PALYI, Gyula; PETER, Ferenc, dr.

Application of oscillopolarography in certain textile chemical investigations. Pt. 2. Magy textil 15 no.7:283-287 J1 52.

1. Egyesult Vegyimvek (for Palyi). 2. Textilipari Kutato Intezet (for Peter).

PETER, Ferenc, dr.; PALYI, Gyula

Application of oscillopolarography in certain textile chemical investigations. Pt. 3. Magyar Textil 15 no. 10:462-466 0 '63.

1. Textilipari Kutató Intézet, Budapest (for Peter). 2. Egyesült Vegyiművek, Budapest (for Palyi).

PALYI, Gyula

Structure dependence of the polymeric adsorption of organic compounds. Pt. 1. Magyar kém. folyoir 71 no.3:126-130, 1965.

1. United Chemical Works, Budapest. Submitted July 11, 1964.

L 16534-66 T/ENP(j) RM
ACC NR: AP6008588

SOURCE CODE: HU/0005/65/071/001/0001/0005

AUTHOR: Palyi, Gyula; Peter, Ferenc

ORG: United Chemical Works, Budapest (Egyesult Vegyimuvek); Research Institute
for the Textile Industry, Budapest (Textilipari Kutatointezet)

TITLE: Applications of oscillo-polarography in some textile-chemical studies.
Part 6: Relations between the structure of 2-hydroxy-3-naphthanilide and its
derivatives and their oscillo-polarographic behavior

SOURCE: Magyar kemiai folyoirat, v. 71, no. 1, 1965, 1-5

TOPIC TAGS: polarography, adsorption, electrode, desorption, organic nitrogen
compound

ABSTRACT: [Part 5 of this series was published in "Chem. Zvesti," Vol 18,
1964, p 444] The oscillo-polarographic activity of 2-hydroxy-3-naphthanilide
and its substituted derivatives was attributed to the adsorption and de-
sorption of the molecules at the surface of the dropping mercury electrode.
The tendency of forming adsorption layers is caused by the part of the mole-
cules having the structure of salicylic acid anilide. The applications of

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L 16534-66

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these findings to the analytical chemistry of Naphthol-AS type dye components were discussed. The authors thank Nobel Prize winner Prof. J. Heyrovsky, Mr. J. Kuta and M. Heyrovsky for valuable comments and advice. Further thanks is given to Candidate Karoly Gyorbira for the polarographic radiometer and measurements. Orig. art. has: 13 figures. [JPRS]

SUB CODE: 07 / SUBM DATE: 30Dec63 / ORIG REF: 002 / OTH REF: 006

TS
Card 2/2

CZECHOSLOVAKIA

PALYI, G.; JEHRING, H.

1. United Chemical Works, Budapest (for Palyi); 2. Group for the Study of Physical Methods in Analytical Chemistry, German Academy of Sciences, Berlin (for Jehring)

Prague, Collection of Czechoslovak Chemical Communications, No 12, Dec 1965, pp 4339-4342.

"Dependence of the adsorption of organic compounds at the dropping mercury electrode on the structure. Part 6: Comparison of adsorption activity of salicylamide and 2-hydroxy-3-naphthamide derivatives."

L 39565-66 EWP(J)/T RM/OD
ACC NR: ATC009217

SOURCE CODE: HU/2502/65/043/002/011/011

AUTHOR: Halvi, Gyula--Pali, D'. (Budapest); Peter, Ferenc (Doctor; Budapest) ⁵
^{5,475}

ORG: United Chemical Works; Research Institute for the Textile Industry, Budapest

TITLE: Application of oscillopolarography in some textile-chemical investigations.
Part 6: Correlation between the structure and oscillopolarographic behavior of
2-hydroxy-3-naphthanilide and its derivatives

SOURCE: Academia scientiarum hungaricae. Acta chimica, v. 43, no. 2, 1968, 111-119

TOPIC TAGS: polarographic analysis, nonmetallic organic derivative, organic nitrogen compound

ABSTRACT: Part 5 of this series was published in Chem. Zvesti, Vol. 14, 1968. The oscillopolarographic activity of the various derivatives of Naphthol AS (2-hydroxy-3-naphthanilide) was practically identical. The results of these studies indicate that this type of azo-dye component may be employed by the same method, irrespective of composition, and that the oscillopolarographic technique is a suitable means for investigating textile chemicals of this nature. The authors express their thanks to Prof.-Dr. J. Heyrovsky, Dr. J. Kuta and Dr. M. Heyrovsky for their valuable remarks and advice and to Dr. K. Gyorbire, Candidate of Sciences, for making possible these experiments with a polarograph Radiometer PD 3. Fig. art. has: 13 figures. [JPRS]

SUB CODE: 07 / SUBM DATE: 01JUN64 / ORIG REF: 003 / OTH REF: 005

Card 1/1 ⁵

2

L 41773-66 T DS
ACC NR: AP6031681

SOURCE CODE: HU/0005/65/071/1.2/0427/0432

AUTHOR: Jehring, Harry; Palyi, Gyula

ORG: [Jehring] Work Group for Physical Methods in Analytical Chemistry, German Academy of Sciences, Berlin (Arbeitsgruppe für Physikalische Methoden der Analytischen Chemie der Deutschen Akademie der Wissenschaften); [Palyi] United Chemical Works, Budapest (Egyesult Vegyimuvek)

TITLE: Data on the structure of adsorption film forming on the surface of the dropping mercury electrode. Part I

SOURCE: Magyar kemiai folyoirat, v. 71, no. 10, 1965, 427-432

TOPIC TAGS: adsorption, electrochemistry

ABSTRACT: The tensammetric curves of a number of substances, specifically of 4-([4"-methoxy-6"- (hydroxyethyl)amino-triazinyl]amino)-4'([4'''-ethoxy-6'''-(hydroxyethyl)aminotriazinyl]amino)stilbene-2,2'-disulfonic acid and 4,4'-bis([4'''-methoxy-6"-phenoxytriazinyl]amino)stilbene-2,2'-disulfonic acid, show characteristic depressions. A study of these depressions indicated that they could be explained by the formation of adsorption layers on the surface of the dropping mercury electrode. The formation and structure of this layer was investigated. Orig. art. has: 10 figures. [JPRS: 33,540]

SUB CODE: 07 / SUBM DATE: 10Feb65 / ORIG REF: 006 / SOV REF: 002

OTH REF: 022

Cord 1/1-20

L 43959-66 EWP(1)/I 06/15/66
ACC NP 109

SOURCE CODE: HU/0005/66/000/001/0029/0030

INOR: Jehring, Harry; Palyi, Gyula

ORG: [Jehring] Research Group for Physical Methods of Analytical Chemistry, DAW
zu Berlin, Berlin-Adlershof (Arbeitsgruppe für Physikalische Methoden der
Analytischen Chemie der DAW zu Berlin); [Palyi] United Chemical Works, Budapest
(Egyesult Vegyimuvek)

TITLE: Adsorption potential range of 2-hydroxy-3-naphthanilide derivatives

SOURCE: Magyar kemiai folyoirat, no. 1, 1966, 29-30

TOPIC TAGS: adsorption, desorption, polarographic analysis

ABSTRACT: During an a.c. oscillopolarographic study of 2-hydroxy-3-naphthanilide derivatives a capacitive incision was observed at the cathodic branch of the $dE/dt = f_1(E)$ curves. This incision has been attributed to a desorption process, and it was assumed that the compounds are adsorbed over the potential range between the positive end of the oscillogram and the incision, on the electrode surface. In the present work this assumption is confirmed by means of the tensametric curves of the investigated compounds. Orig. art. has: 2 figures.

[JPRS: 34,805]

SUB CODE: 07 / SUBM DATE: 31May65 / ORIG REF: 004 / OTH REF: 002

Card 1/1 296

0917 1221

L 47262-66 JAJ
ACC NR: AP6034685

SOURCE CODE: HU/0005/66/000/003/0097/0101

AUTHOR: Palyi, Gyula, and Jehring, Harry [Palyi] United Chemical Works, Budapest (Egyes-
ult Vegyimvek); Jehring/Work Group for Physical Methods in Analytical Chemistry
German Academy of Sciences in Berlin (Arbeitsgruppe für Physikalische Methoden der
Analytischen Chemie Deutsche Akademie der Wissenschaften zu Berlin) Berlin-Adlershof
"Structure Dependence of the Polarographic Adsorption of Organic Compounds.
II. Investigation of the Tensametric Curves of 4,4'-bis(triazinylamino)stil-
bene-2,2'-Disulfonic Acid Derivatives"

Budapest, Magyar Kemiai Folyoirat, Vol 72, No 3, Mar 66; pp 97-101.

Abstract [Authors' English abstract]: The tensametric curves of some variously
substituted 4,4'-bis(triazinylamino)stilbene-2,2'-disulfonic acid derivatives
have been investigated. It was found that at least from -0.10 V to -1.10V
(SCE) the compounds are present on the surface of the dropping mercury
electrode in adsorbed state. Owing to this adsorption, the electrode capacity
is decreased in this potential range, and then the desorption process at
-1.10 V gives rise to a tensametric wave. With some compounds deviations
are observed in the shape of the polarogram indicating that although the
substituents of the basic molecule have no effect on the adsorption ability at
the mercury drop, they may affect the structure of the adsorption layer.

Orig. art. has: 10 figures and 1 table. (TPRS: 36,0027)
TOPIC TAGS: adsorption, polarographic analysis, desorption, organic

sulfur compound
SUB CODE: 07 / SUBM DATE: 10 Feb 65 / ORIG REF: 005 / OTN REF: 004
Card 1/1

EXCERPTA MEDICA Sec 18 Vol 3/8 Cardio. Dis. Aug 59

2264. Effect of digitalis on nerveless heart tissue PALEY I. and RADITS N. Inst. of Histol. and Embryol., Med. Univ., Budapest *Acta biol. Acad. Sci. hung.* 1958, 9:1 (71--78) Graphs 3 Illus. 1

The effects of lanatosides A, B and C ('diglanid') were studied on explanted cardiac tubes obtained from 53-hour-old chick embryos. Pulse rate was depressed only by a high concentration (10 $\mu\text{g./ml.}$) in the culture medium, whereas A-V conduction was impaired even at lower concentrations. At 10 $\mu\text{g./ml.}$ and 1 $\mu\text{g./ml.}$ the drug retarded proliferation and increased cellular degeneration. At 0.01 $\mu\text{g./ml.}$ it appeared to prevent degeneration of the cells.

Lu - Ottawa (II, 18)

PALYI, I.; GREGZI, E.

Evaluation of the effect of chemotherapeutic agents on tissue cultures. Neoplasma 8 no.2:195-201 '61.

1. Oncopathological Research Institute, Budapest, Hungary.
(ANTINEOPLASTIC AGENTS pharmacol)

PALYI, Iren, dr.; AFRA, Denes, dr.; CSANDA, Endre, dr.

Behavior of gliomas in tissue cultures. I. The astrocytoma-glioblastoma group. *Ideggyogy. szemle* 14 no.8:225-237 Ag '61.

1. Budapesti Orvostudományi Egyetem Szövet- és Fejlődéstan Intézete (Igazgató: Toro Imre dr. akadémikus), az Országos Idegsebészeti Tudományos Intézet (Igazgató: Zoltan László dr.).

(GLIOMA exper) (ASTROCYTOMA exper)

3/134/62/000/002/017/011
2230/2301

AUTHORS: Palgi, I. and Abramam, J.

TITLE: Delayed semiconductor on/off switch

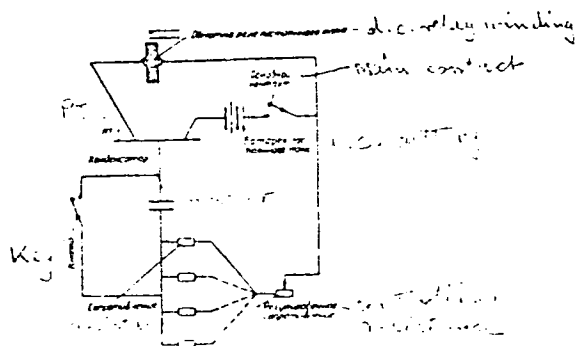
PERIODICAL: Referativnyy zhurnal, Avtomatika i telemekhanika,
no. 2, 1962, abstract 2-2-10r (Transistorized relay-
sensitive automata. Veng. pat., Kl. 21c, 25-53, no. 147000,
31.05.60.)

TEXT: The winding of the magnetizing relay is in series with the
d.c. supply and in parallel with the RC circuit (see figure). The
relay time operation is controlled by the resistance fixing the
time delay. The relay is closed by a key aided by the capacitor.
/_Abstracter's note: Complete translation._/

Card 1/2

Delayed semiconductor on/off switch

07/04/02/000/000, 07/04/02/000/000
0230/0301



Card 2/2

PALYI, Iren, Dr. egyetemi tanarseged (Budapest)

The effect of ionizing rays in tissue cultures. Term tud
kozl 6 no.2:59-62 F '62.

~~J. J. J.~~, Jr., A.; Palyi, I.; HERNADI, F.; VALYI-NAGY, T.

Search for antagonistic actinomycetae in Hungarian soils.
V. Effects of fermentation liquids in various in vitro tumour
tests. Acta biol. acad. sci. Hung. 14 no.2:103-109 '63.

1. Institute of Pharmacology (Head: T. Valyi-Nagy), Medical
University of Debrecen, Research Institute for Oncopathology
(Head: B. Kellner), Budapest, and Department of Antibiotics
(Head: T. Valyi-Nagy), Research Institute of Experimental
Medicine, Hungarian Academy of Sciences (Director: I. Rusznyak).
(ACTINOMYCETES) (SOIL MICROBIOLOGY)
(STREPTOMYCES) (CARCINOMA, EHRlich TUMOR)
(ANTINEOPLASTIC AGENTS)

HUNGARIAN

BOLTAN, Laszlo, Dr. FAJTA, Iren, Dr. AFRA, Denes, Dr; National Neurosurgical Scientific Institute (director: BOLTAN, Laszlo, Dr) and Medical University of Budapest, Histological and Embryological Institute (director: TORC, Lure, Dr, academician)(Orvostudományi Egyetem Szövet- és Fejlesztési Intézet, Orvostudományi Egyetem Szövet- és Fejlesztési Intézet,).

"The Behaviour of Gliomas in Tissue Cultures."

Budapest, Idősegyeszeresi Szemle, Vol XIV, No 7, July 1963, pages 193-198.

Abstract: [Authors' Hungarian summary modified] Comparative studies were made on samples taken during the first and second operation in four cases of glioma. Two patients with glioblastoma multiforme and one with astrocytoma malignum received radiation treatment after surgery while a second patient with astrocytoma malignum was not treated by irradiation. The irradiated tissue cultures showed evidence of degeneration already in the third week. The decrease of biological activity in irradiated tumor cells can be considered the result of radiation effect. During recidive surgery there was evidence of a change toward increased malignancy in the non-irradiated tumor tissue. In one of the cases, the activity of the tumor tissue removed during the initial surgery showed evidence of malignant astrocytoma, indicating the malignant change which was actually found in the tissue which was removed during the second operation. 2 Hungarian, 14 Western references.

1/1

ZOLTAN, Laszlo, dr., PALYI, Iren, dr.: AP A. Deneš dr.

The behavior of gliomas in tissue culture. III. Comparative studies on gliomas irradiated in vivo. Ideggogy szemle 16 no. 7:193-198 1963.

1. Országos Idegsebészeti Tudományos Intézet (igazgató: Zoltan Laszlo dr.), Budapesti Orvostudományi Egyetem Szövet- és Fejlődéstan Intézet (igazgató: Törő Imre dr. azideintől).

(GLIOMA IRRADIATION EFFECTS)

PALYI, Iren, dr.

Animal tissue culture. Elovilag 7 no.3:21-24 Ny-Je '63.

PALYI, Iren; AFRA, D.; CSANDA, E.

The behaviour of gliomas in tissue culture. Acta morph. acad. sci. hung. 12 no.1:111-127 '63.

1. Department of Histology and Embryology (Director: Prof. I. Törő)
University Medical School Budapest and Institute for Neurosurgery
(Director L. Zoltan), Budapest.
(BRAIN NEOPLASMS ASTROCYTOMA) (GLIOMA GLIOBLASTOMA MULTIFORME)
(TISSUE CULTURE) (CLASSIFICATION)

1. The first part of the report is devoted to a description of the experimental setup and the results of the measurements.

2. The second part of the report is devoted to a description of the theoretical model and the results of the calculations.

3. The third part of the report is devoted to a description of the experimental results and the comparison with the theoretical model.

PALYI, Marton, dr.; SANDORFI, Istvan, dr.; TOTH, Jeno, dr.; VOJNICH, Eva, dr.

Efforts to enforce health protective measurements in vocational schools. *Nepegesssegugy* 37 no.8:218-220 Aug 56.

1. A Fovarosi iskolarovosi szolgalat kereteben az ipari tanulok ellatasara szakositott iskolasorvosok munkakozossegenek kozlemenye.

(SCHOOLS

vocational, in Hungary, health protective measurements (Hun))

PALEI, Ya.I.

Growth of microorganisms in conditions of low and atmospheric pressure.

Mikrobiologiya. vol.21, p. 14. 1952.

PALYS, Henryk, mgr inz.

Development of the use of crushed limestone for bituminous
mixtures in Kielce Voivodeship. Techn drog prace 2:35-82'61

PALYS, Henryk, mgr inż.

The Sections of the Association of Transportation Engineers and Technicians introduce progressive labor methods. Przegl techn no.52: 7,8 30 D '62.

1. Przewodniczący Zarządu Oddziału Stowarzyszenia Inżynierów i Techników Komunikacyjnych, Kielce.

GOC, E.; KOTLICKA, G.N.; PALYS, J.; ROZKOWSKI, A.

Preparation techniques of a specific hydrogeological map
of the Upper Silesian Coal Basin. Przegl geol 11 no.5:
235-237 My '63.

1. Gornoslaska Stacja Terenowa, Instytut Geologiczny, Sosnowiec.

PALYS, Jan; ROZKOWSKI, Andrzej

Water conditions of the Mars and Flora mines in the light of
the geological conditions of that region. Kwartalnik geol 6
no.2:436 '62.

1. Gornoslaska Stacja Terenowa, Instytut Geologiczny, Warszawa.

PALYS, Jan

Water conditions in the central part of the Upper Silesian
Coal Basin. Kwartalnik geol 6 no.4:789-790 '62.

1. Gornoslaska Stacja Terenowa, Instytut Geologiczny,
Sosnowiec.

PALIS, J. R.

Upper Silurian of the ...
Gann ...
... , Kwartalnik ...
"Chemical ...
Silurian Carboniferous System".

POLAND

PALYS, Jan

Geological Institute (Instytut Geologiczny)

Warsaw, Przegląd geologiczny, No 5, May 1966, pages 229-232

"Water of the SO_4 -Na and HCO_3 -Na types in the Upper Silesia area."

PALYSA, K.

"Economic Significance of Electric Power Transmission in Paper Mills". P. 52 (PERMUTIRA, Vo. 3, No. 2, February 1953, Praha, Czechoslovakia).

SC: Monthly List of East European Accessions, LC, Vol. 3, No. 5, May 1 54, 'declassified

OSIPOV, Ya.Kh.; TALOVIKOV, G.I.; SEREBRYANYI, Ya.L.; VEZO, A.I.; LINEV, V.D.;
SUDARKINA, V.A.; PALYSAYEV, M.P.; BAYMAKOV, A.Yu.

Mastering the procedure of nodulizing and roasting flotation
concentrates. TSvet. met. 36 no.9:42-46 S '63. (MIRA 16:10)

BROVKIN, V.G.; PALYSAYEV, M.F.; SLODODIN, N.A.; CHERTKOV, N.E.

Material with that balance is used for the production of super-
nickel sulfide from 3, 40 g of nickel and 10 g of sulfur.
met. 38 g. 1:34-40 D 165 (MIA 1944).

1. HAYES, M.P.; HAYES, G.L.; HAYES, G.L.

2. HAYES, M.P.; HAYES, G.L.; HAYES, G.L.
HAYES, M.P.; HAYES, G.L.; HAYES, G.L.

PALYUGA, F.V., klinicheskiy ordinator

Therapeutic effectiveness of subconjunctival injections of
salinuzid in tuberculosis of the eye. Oft. zhur. 15 no. 6:330-
334 '60. (MIRA 13:10)

1. Iz kafedry glaznykh bolezney (zav. - dotsent T.V. Shlopak)
Stanislavskogo meditsinskogo instituta.
(ISONICOTINIC ACID) (EYE—TUBERCULOSIS)

PALYUKAYTIS, O.I., polkovnik meditsinskoy sluzhby

Conference of physicians of polyclinics on problems in dispensary
work. Voen.-med. zhur. no. 1:93-95 Ja '60. (MIRA 14:2)
(MEDICINE, MILITARY)

PALYUKH, A.F.

Rare case of a fetal cord wrapped six times around the neck of
the fetus. Akush. i gin 34 no.5:113 S-O '58 (MIRA 11:10)

1. Iz Iatskogo gorodskogo rodil'nogo doma (glavnyy vrach T.P. Kozachenko).
(FETUS, DEATH OF)

VOLOKH, D.M.; NAGORSKAYA, V.G. [Nahors'ka, V.H.]; Palyukh, A.P.

Rare case of abnormal female genitalia. Ped., akush. i gin. 20
no.5:59-60 '58. (MIRA 13:1)

1. Ginekologicheskii ordel (zav. - D.M. Volokh) Luts'koy gorodskoy
bol'nitsy Volynskoy oblasti.
(GENERATIVE ORGANS, FEMALE--ABNORMALITIES AND DEFORMITIES)

26.2195
13.2000

S/102/60/000/003/002/006
S 111, S 133

AUTHORS: Karpyushyn, L. V., Palukh, A. S.

TITLE: Determination of the Parameters of Linear Members and Systems of Automatic Control by the Method of Approximating Experimental Temporal Characteristics

PERIODICAL: Avtomatika, 1960, No. 3, pp. 7-16

TEXT: From the known structure of a system it is assumed to follow that it is described by the differential equation

$$(1) \quad a_n x^{(n)} + a_{n-1} x^{(n-1)} + \dots + a_1 x' + a_0 x = b_m f^{(m)} + b_{m-1} f^{(m-1)} + \dots + b_1 f' + b_0 f,$$

where f is the input parameter, x the output parameter and a_1, b_1 are unknown coefficients. For determining these coefficients from the experimentally determined transition function the authors propose the following simple method: 1) a_0 is directly determined from

$$(7) \quad a_0 = \frac{f(\infty)}{x(\infty)}$$

Card 1/4

84282

S/102/60/000/003/002/006
C 111/ C 333

Determination of the Parameters of Linear Members and Systems of Automatic Control by the Method of Approximating Experimental Temporal Characteristics

2.) By introducing the new variable

$$(2) \quad y(t) = x(t) - x(\infty)$$

(1) is transformed into a homogeneous equation

$$(4) \quad a_n y^{(n)} + a_{n-1} y^{(n-1)} + \dots + a_1 y' + a_0 y = 0,$$

where the corresponding initial conditions are given by

$$(5) \quad y(0) = -x(\infty), \quad y'(0) = x'(0) = \lim_{p \rightarrow \infty} p \tilde{x}(p),$$

$$y''(0) = x''(0) = \lim_{p \rightarrow \infty} p \left[p \tilde{x}(p) - x'(0) \right], \text{ etc.}$$

where $p = \frac{d}{dt}$ and

Card 2/4

S/102/60/000/003/002/006

C 111/ C 333

Determination of the Parameters of Linear Members and Systems of Automatic Control by the Method of Approximating Experimental Temporal Characteristics

$$(6) \quad W(p) = \frac{b_m p^m + b_{m-1} p^{m-1} + \dots + b_1 p + 1}{a_n p^n + a_{n-1} p^{n-1} + \dots + a_1 p + a_0}$$

3.) By numerical differentiation the values $y_k^{(r)} = x_k^{(r)}$ are determined from the experimentally determined transition function and the system

[illegible]

Card 3/4

91282

S/102/60/000/003/002/006
C 111/ C 333

Determination of the Parameters of Linear Members and Systems of Automatic Control by the Method of Approximating Experimental Temporal Characteristics

is formed, where $z_k = a y_k$. 4.) (8) is solved and the a_i are determined; the b_i then are determined from (5).

The authors give series expansions of differential operators according to (Ref. 10). Two examples are considered. S. N. Bernshteyn is mentioned in the paper.

There are 11 references: 8 Soviet, 2 American and 1 German

ASSOCIATION: L'vivs'kyy politekhnichnyy instytut (L'viv Polytechnical Institute)

SUBMITTED: July 20, 1957

Card 4/4

8/271/63/000/002/013/030
A060/A126

AUTHORS: Palyukh, A. S., Burtyny, V. V.

TITLE: Role of the dispersion of experimental characteristics in the solution of certain problems of their approximation

PERIODICAL: Referativnyy zhurnal, Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, no. 2, 1963, 60, abstract 2A370 (Dokl. L'vovsk. politekhn. in-ta, 1962, v. 5, no. 2, Elektrotekhnika, 18 - 21)

TEXT: For the design or investigation of automatic regulation systems methods have been worked out for determining the coefficients of the differential equations from the experimental dynamic characteristics, the methods ensuring a high design precision. The order of the differential equation and the accuracies of the determination of the numerical values of the coefficients should be related to the size of the dispersion zone of the experimental characteristics. If one assumes the error from the choice of the order and the analysis of the numerical values of the coefficients of the differential equation approximating the mean experimental characteristic to be of the same size

Card 1/2

Role of the dispersion of...

S/271/63/000/002/013/030
A060/A126

as the error on account of the dispersion of the characteristics, then the following condition may be formulated: The error of determination of the order and numerical values of the coefficients of the differential equation as determined from the experimental dynamic characteristics is admissible, provided that all points of the calculated dynamic characteristic, constructed from the solution of the approximating differential equation, do not pass beyond the boundary of the dispersion zone of the experimental characteristics. Taking account of the dispersion is applicable to those cases when the minimum error of the methods of analysis is less than or equal to the error of dispersion of the experimental data. There are 3 figures and 4 references.

E. A.

[Abstracter's note: Complete translation]

Card 2/2

PALYUKH, B. M.

PA 163T87

USSR/Physics - Mercury
Ions

Jun 50

"Overcharge of Mercury Ions and Atoms," B. M.
Palyukh, L. A. Sena, Sci Res Inst of Direct Cur-
rent, Leningrad

"Zhur Eksper i Teoret Fiz" Vol XX, No 6, pp 481-491

Measures effective cross section of overcharge
possessed by mercury ions and atoms for energy
interval 32-1400 ev of mercury ions by method
of retarding fields with two variations (method
of constant ion velocity and of constant collec-
tor potential). Results agree with theory. Sub-
mitted 15 Nov 49.

163T87

PALYUKH, B. M.

PALYUKH, B. M.: "Resonance overcharging of the ions and atoms of mercury, krypton, and xenon." Min Higher Education Ukrainian SSR. L'vov State U imeni Ivan Franko. Chair of Experimental Physics. L'vov, 1956. (DISSERTATION FOR THE DEGREE OF CANDIDATE IN PHYSICOMATHEMATICAL SCIENCE)

So: Knizhnaya letopis' No 15, 1956, Moscow

PALYUKH, B.M. [Paliukh, B.M.]

Charge exchange $Ar^+ \rightarrow Kr^+$ and $Se^+ \rightarrow Kr$. Dop. ta pov.
L'viv. un. no. 7 pt. 3:239-241 '57. (MIRA 11:2)
(Agron) (Krypton) (Xenon)

24(7)
AUTHORS: Kushnir, R. M., Palyukh, B. M., Sena, L. A. SOV/48-23-8-16 25

TITLE: An Investigation of the Resonance Charge Exchange in Monatomic Gases and Metal Vapors

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959. Vol 23, Nr 8, pp 1007-1011 (USSR)

ABSTRACT: Resonance charge exchange is an important process of interaction between ions and atoms. Knowledge of the cross section of resonance charge exchange and of the dependence of the latter on the velocity of ions is very important. In the introduction of the present paper the results of numerous investigations (Refs 1-6) are discussed. In the laboratory of L'vovskiy gosudarstvennyy universitet im. I. Franko (L'vov State University imeni I. Franko) the cross section of resonance charge exchange was measured for argon, krypton, xenon, potassium, and cesium, similar to measurements for mercury vapor made by the Leningradskiy NII. The results of all these measurements are investigated and compared with theory. Experimental measurements were accomplished by the method of retarded field, similar to methods used by the authors in previous investigations.

Card 1/2

307, 48-23-8-16/23

An Investigation of the Resonance Charge Exchange in Monatomic Gases and Metal Vapors

tions (Ref 6). In the first part, the results of measurement are discussed, and the mean values of the cross sections are listed in a table. There is good agreement between experimental and theoretical results, with the exception that the experimental dependence of the cross section on the ionic velocity increases in the range of low velocity to a larger extent than the theoretical dependence. In general, it was found that the cross section decreases in a monotonic manner with increasing ionic velocity and depends on the ionization potential of the gas. There are 4 figures, 1 table, and 12 references, 8 of which are Soviet.

ASSOCIATION: L'vovskiy gos. universitet im. Iv. Franko (L'vov State University imeni Iv. Franko)

Card 2/2

L 19375-63

EWI(m)/BDS AFFTC/ASD

ACCESSION NR: AR3006957

S/0058/63/000/008/A038/A038

SOURCE: RZh. Fizika, Abs. 8A288

RB

AUTHORS: Kushnir, R. M.; Palyukh, B. M.

TITLE: Use of hindered discharge to neutrons¹⁹ obtained in a sealed-off tube

CITED SOURCE: Visnyk L'vivs'k. un-tu. Ser. fiz., no. 1, 1962, 162-168

TOPIC TAGS: neutron source, low voltage, glow discharge, hindered discharge, deuterium, tritium

TRANSLATION: The possibility of using hindered glow discharge to produce sealed-off low-voltage neutron sources is discussed. The construction of one variant of such a neutron tube is described. The ion source is a system comprising an incandescent cathode and a

Card 1/2

L 19375-63
ACCESSION NR: AR3006957

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planar anode (with openings to draw out the ions): Such an anode construction eliminates the sag of the target field in the region of the ion source. The target is zirconium saturated with deuterium (or tritium) and deposited on a tungsten substrate. It is stated that with the aid of this tube a neutron flux of 2×10^5 neutron/sec was obtained (at a voltage 95 kV and a target current 90 microamperes). Replacement of the deuterium target by a tritium one increased this flux to approximately 10^7 neutron/sec.
S. Kovalenko

DATE ACQ: 06Sep63

SUB CODE: PH

ENCL: 00

Card 2/2

CLAUBERMAN, A.Yu. [Hlauberman, A.IU.], prof., otv. red.; RYBALKA,
V.V., red.; SFN'KIV, M.T., dots., red.; VISHNEVSKIY, V.N.,
[Vyshnevs'kyi, V.N.], dots., red.; YUKHEVSKIY, I.R.
[Iukhnovs'kyi, I.R.], dots., red.; PALYUKH, B.M., dots.,
red.; KVITKO, I.S., red.

[Problems in solid state physics] Pytannia fizyky tverdoho
tila. L'viv, Vyd-vo L'vivs'koho univ., 1964. 117 p.
(MIRA 17:11)

1. Lvov. Universytet.

L 39742-01 ENT(17/ENTR)/EM(1) LSP(1) AT JUL 3-64

ACC NR: AR6005196

SOURCE CODE: UR/0058/65/000/009/1007/1007

SOURCE: Ref. zh. Fizika, Abs. 9D52

AUTHORS: Kushnir, R. M.; Kolosyuk, H. M.; Miliyanchuk, A. V.; Palyukh, E. M.

TITLE: Resonance charge exchange of cadmium ions

REF SOURCE: Rezonansna perezaryadka ioniv kadmiyu. Visnyk L'viys'k. un-tu. Ser. fiz. L'viv, 1964, 81-82

TOPIC TAGS: cadmium, ion neutralization, charge exchange, resonance scattering, scattering cross section

TRANSLATION: The authors measured the effective cross section of the resonance charge exchange of Cd ions in the ion-energy interval 25--400 ev. The measurements were made by the method of decelerating fields and by the method of drawing out the slow ions. The experimental curve $Q = f(E)$ agrees well with the theoretical curve of Firsov.

SUB CODE: 20

Card

1/1/5

L 23690-66 EWT(1)/EWT(m)/EPF(n)-2/EWP(t) LJP(c) JD/WW/JG/AT
 ACC NR: AR6005197 SOURCE CODE: UR/0058/65/000/009/D007/D007

SOURCE: Ref. zh. Fizika, Abs. 9D53

AUTHORS: Palyukh, B. M.; Savchyn, L. S.

TITLE: Resonance charge exchange in zinc vapor

REF SOURCE: Rezonansna perezharyadka v pari tsynku. Visnyk L'vivs'k. un-tu. Ser. fiz. L'viv, 1964, 83-86

TOPIC TAGS: zinc, charge exchange, ion neutralization, resonance scattering, scattering cross section

TRANSLATION: The authors investigate the process of resonance charge exchange of atoms and ions of zinc. The measurements were made for ions with energy 64--400 ev. The values obtained for the effective cross sections are close to those calculated by the formula of O. B. Firsov.

SUB CODE: 20

Card 4/1

L 13146-66 EWT(m)/EPF(n)-2/EWP(t)/EWP(b) IJP(c) JD/WH/JG

ACC NR: AP8002445

SOURCE CODE: UR/0057/65/035/012/2212/2214

53
52
BAUTHOR: Kushnir, R.M.; Palyukh, B.M.; Savchik, L.S.ORG: L'vov State University im. Ivan Franko (L'vovskiy gosudarstvennyy universitet)TITLE: Resonance charge exchange in zinc and cadmium vapors 14

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 12, 1965, 2212-2214

TOPIC TAGS: zinc, cadmium, charge exchange, particle cross section, *gas discharge ionization cross section*

ABSTRACT: The authors have measured the cross sections for resonant charge exchange between zinc ions and atoms and between cadmium ions and atoms by the retarding potential method in order to accumulate more data to test the theory of O.B. Firsov (ZhETF, 24, 2113, 1954). The ions were produced in a gas discharge between a hot tungsten cathode and a ring-shaped anode, were drawn into and traversed a 3.5 cm long collision chamber, and were collected in a Faraday cup. Measurements were made at ion energies from 40 to 400 eV (from 25 eV for cadmium). The metal vapor was in equilibrium with the solid metal, the temperature of which was measured to within 0.2° C with a copper resistance thermometer, and the pressure of the vapor was calculated from the temperature. The most significant source of error was the uncertainty in the values of the constants in the vapor pressure equation. Measurement errors did not exceed 10%. For both metals the square root of the charge exchange cross section was a linear function of the logarithm of the ion velocity. The charge exchange cross

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ACC NR: AP6002445

sections measured by various authors at an ion velocity of 2×10^6 cm/sec for a number of elements are plotted against the ionization potential. On this plot the present measurements fall close to a smooth curve drawn among the points representing the data for other elements. The authors thank Professor L.A.Sen for his interest and for a discussion of the results. Orig. art. has: 3 formulas, 3 figures, and 1 table.

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Card 2/2

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SEROSHEVSKIY, Yu.; Palyukh, O.; PALINSKA-VEEZE, Z.

Significance of paratypy in clinical practice. Akush.i gin. 35 no.4:
78-83 J1-Ag '59. (MIRA 12:11)

1. Iz akushersko-ginekologicheskoy kliniki (dir. - prof. Yu. Sero-
shevskiy) Meditsinskoy akademii v Lodzi.
(CERVIX UTERI pathol.)

PALYUNAS, V.A., inzh.

Experimental studies of connected masses of water for plane
hydraulic gates. Trudy Gidrav.lab.VODGEO no.9:100-110 '62.
(MIRA 15:11)

(Sluice gates)

RUDYK, M.A., inzh.; PALYUNAS, V.A., inzh.; LYSENKO, P.Ye., kand.tekhn.
nauk

Design of Flat high-pressure submerged gates. Izv.ASIA 4
no.4:102-107 '62. (MIRA 16:1)
(Gates, Hydraulic)

05870

SCV/78-4-11-2/50

5(2)

AUTHORS: Palkin, A. P., Palyura, I. P.

TITLE: On the Interaction in the Ternary System $\text{CdCl}_2 + 2\text{Tl} \rightleftharpoons \text{Tl}_2\text{Cl}_2 + \text{Cd}$

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 11,
pp 2531 - 2535 (USSR)

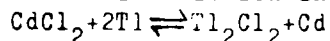
ABSTRACT: The authors investigated the quaternary system $\text{CdCl}_2 + \text{Tl}_2\text{Cl}_2 + 2\text{Zn} \rightleftharpoons 2\text{ZnCl}_2 + \text{Cd} + 2\text{Tl}$ of which the system mentioned in the title is a component. This article reports on the conditions inside this component. Experiments were made by means of open test tubes in CO_2 atmosphere as well as in sealed Stepanov ampules. The same results were obtained in both cases. Reaction temperature: 450° ; reaction time: 30 min. Control tests for 3 days at 500° did not show any variation. The 4 binary systems are briefly discussed. $\text{TlCl}-\text{CdCl}_2$ which has already been described in publications (Ref 1), but was checked by the authors and described in more detail (Fig 1). $\text{Cd}-\text{Tl}$ (Fig 2); $\text{TlCl}-\text{Cl}$; there are no data available on this system. Experiments have shown that in this system TlCl and Tl melted independently of each other and the liquid melt is completely unmixed. CdCl_2-Cl is

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SOV 78-4-11-24/50

On the Interaction in the Ternary System



illustrated in figure 3 according to G. G. Uralov and A. S. Karnaukhov (Ref 3). The following diagonal sections were studied in the ternary system: CdCl_2 -Tl (Tables 1,2, Fig 4) and TlCl-Cd (Tables 3,4, Fig 5). The reaction proceeded more completely on the diagonal CdCl_2 -Tl than on the diagonal TlCl-Cd. In the first instance, the reaction takes place according to the equation $3\text{CdCl}_2 + 2\text{Tl} \rightarrow 2(\text{TlCl} \cdot \text{CdCl}_2) + \text{Cd}$. On the diagonal TlCl-Cd, however, only a crystallization of TlCl occurs without any separation of metallic thallium. Consequently, Tl ranges before Cd in the order in which the metals are removed from the melts of their chlorides, but it is to be noted that these metals ($\text{Tl} \rightleftharpoons \text{Cd}$) may displace each other. There are 5 figures, 4 tables, and 5 Soviet references.

ASSOCIATION: Voronezhskiy gosudarstvennyy universitet, Kafedra neorganicheskoy khimii (Voronezh State University, Chair of Inorganic Chemistry).

SUBMITTED: August 24, 1958

Card 2/2

3(4)

SCV 78-1-1-23 16

AUTHOR: Palyura, I. P.

TITLE: On a Method of Estimating the Composition of Metallic Alloys Produced as a Result of the Reciprocal Displacement Reaction in Salt-Metal Systems (O metode rascheta sostava metallicheskogo splava, poluchayushchegosya v rezul'tate reaktsii vzaimnogo vytesneniya v sistemakh sol'-metall)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 1, pp 236-237 (USSR)

ABSTRACT: The determination of the composition of alloys formed by displacement reactions is usually carried out by wearisome analyses. For ternary alloys formed in this way a mathematical method of determining the composition was worked out. The following data are necessary: the initial amount of the displacing metal, the amount of the alloy, and the amount of any component of the alloy determinable by chemical-analytical methods. The method can be used for controlling chemical analysis of alloys formed by reciprocal displacement reactions.

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SOV/78-4-1-41 48

On a Method of Estimating the Composition of Metallic Alloys Produced as a
Result of the Reciprocal Displacement Reaction in Salt-Metal Systems

ASSOCIATION: Voronezhskiy gosudarstvennyy universitet (Voronezh State
University)

SUBMITTED: August 24, 1978

Card 2/2

SOV 78-1-1-11/1-

AUTHORS: Palgura, I. P., Palkin, A. P.

TITLE: On the Question of the Melting Diagram of the System $TlCl-CdCl_2$
(K voпросу diagramma plavkosti sistemy $TlCl-CdCl_2$)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1989, Vol 4, No 1,
pp 238-238 (USSR)

ABSTRACT: The melting diagram of the system $TlCl-CdCl_2$ was examined by a visual-thermic method. Initial components of highest purity were used. The results of the therm. analysis are shown in a table. The liquidus temperatures and all invariant points of the system were corrected. The composition of the eutectic, consisting of $TlCl$ and the chemical compound $TlCl.CdCl_2$, was corrected and changed from 18.5 mol% $TlCl$ to 21.5 mol%. There are 1 figure, 1 table, and 1 S. ref.

ASSOCIATION: Voronezhskiy gosudarstvennyy universitet, Khefirologiya i fizika khimii (Voronezh State University, Chair of Inorganic Chemistry)
Card 1/2

PAIKIN, A.P.; PLYURA, I.P.

Interaction in the ternary reciprocal system involving the
displacement $Tl_2Cl_2 + Zn = ZnCl_2 + 2Tl$. Zhuravskiy, I.P.
no.1:160-171 Jan '60. (MIRA 1):5

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i neorganicheskoy khimii.

(Systems (Chemistry)) (Zinc chloride)
(Thallium)

PALKIN, A.P. [deceased]; PALYURA, I.P.

System $(\text{TlCl})_3 + \text{Al} \rightleftharpoons \text{AlCl}_3 + (\text{Tl})_3$. Zhur. neorg. khim. 9 no.11:
2613-2618 N 1964 (MIRA 18:1)

Effect of complex formation on the equilibrium of the salt-metal
displacement systems. Ibid.:2619-2622

System $\text{AlCl}_3 - \text{TlCl}$. Ibid.:2668-2669

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Leonatiye of the merchant marine: Ekonomika morskogo transporta. 1964, 1964. Moscow, Transport, 1964. 520 p. (R1 A 18:1)